

Amdt. dated August 19, 2004
Reply to Office action of April 19, 2004

Serial No. 09/579,866
Docket No. STL920000058US2
Firm No. 0054.0032

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Currently Amended) An extensible file access method for accessing a foreign file system from a local data processing system with a native file system, said foreign file system being located on a remote data processing system, said foreign file system having a set of foreign file attributes corresponding to each of a plurality of files in the foreign file system, and said native file system having a set of native file attributes corresponding to each of a plurality of files in the native file system, said method comprising:

generating a request from a client on the local data processing system to the remote data processing system to open a foreign file in the foreign file system;

opening of the foreign file by the foreign file system;

sending of file attributes of the foreign file, hereinafter foreign file attributes, to the local data processing system;

storing of the foreign file attributes by the local data processing system;

determining a subset of the foreign file attributes which are equivalent to a corresponding subset of file attributes of the native file system, the subset of the foreign file attributes hereinafter known as conventional file attributes; and

returning the conventional file attributes to the client[:]

~~storing a remaining subset of the foreign file attributes which are not equivalent to a corresponding subset of file attributes of the native file system, the remaining subset of the foreign file attributes hereinafter known as extended file attributes;~~

~~accessing of the foreign file attributes stored in the local data processing system by the local data processing system client to process the foreign file; and~~

~~processing by the local data processing system client the foreign file using the stored foreign file attributes.~~

2. (Canceled)

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3. (Currently Amended) The method of claim [1] 19, further comprising:
accessing of the foreign file by the client via a protocol of the native file system, the
accessing being performed in a similar manner to accessing a file in the native file system file;
and

accessing of the foreign file by the client by use of the extended file attributes, the
accessing being performed via a protocol different from the native file system protocol.

4. (Currently Amended) The method of claim [1] 19, ~~wherein the storing step~~
further comprising comprises:

starting an expiration timer corresponding to the extended file attributes in response to
storing the extended file attributes; and

removing the extended file attributes from the local data processing system storage after
the an expiration of the expiration timer.

5. (Previously Presented) The method of claim 1 wherein the sending of the foreign
file attributes is performed by a web server located on the remote system, the web server being
capable of sending and receiving messages via a network.

6. (Currently Amended): The method of claim [1] 19, further comprising:
storing the extended file attributes in a shared memory portion of the local data
processing system storage which is accessible by the client and other local data processing
system processes;

associating a unique handle with the extended file attributes; and

providing the unique handle to a local data processing system process to enable the local
data processing system process to access the extended file attributes.

7. (Currently Amended) An article of manufacture for use in a computer system for
accessing a foreign file system from a local data processing system data processing system with a
native file system, said foreign file system being located on a remote data processing system, said
foreign file system having a set of foreign file attributes corresponding to each of a plurality of

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files in the foreign file system, and said native file system having a set of native file attributes corresponding to each of a plurality of files in the native file system, said article of manufacture comprising a computer-readable storage medium having a computer program embodied in said medium which causes the computer system to ~~execute the method steps comprising perform~~ operations, the operations comprising:

generating a request from a client on the local data processing system to the remote data processing system to open a foreign file in the foreign file system;
opening of the foreign file by the foreign file system;
sending of file attributes of the foreign file, hereinafter foreign file attributes, to the local data processing system;
storing of the foreign file attributes by the local data processing system;
determining a subset of the foreign file attributes which are equivalent to a corresponding subset of file attributes of the native file system, the subset of the foreign file attributes hereinafter known as conventional file attributes; and
returning the conventional file attributes to the client[;]
~~storing a remaining subset of the foreign file attributes which are not equivalent to a corresponding subset of file attributes of the native file system, the remaining subset of the foreign file attributes hereinafter known as extended file attributes;~~
~~accessing of the foreign file attributes stored in the local data processing system by the local data processing system client to process the foreign file; and~~
~~processing by the local data processing system client the foreign file using the stored foreign file attributes.~~

8. (Canceled)

9. (Currently Amended) The article of manufacture of claim [7] 20, wherein the ~~method steps further comprise~~ operations further comprise:

accessing of the foreign file by the client via a protocol of the native file system, the accessing being performed in a similar manner to accessing a file in the native file system file;
and

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accessing of the foreign file by the client by use of the extended file attributes, the accessing being performed via a protocol different from the native file system protocol.

10. (Currently Amended) The article of manufacture of claim [7] 20, wherein the storing-step operations further comprises comprise:

starting an expiration timer corresponding to the extended file attributes in response to storing the extended attributes; and

removing the extended file attributes from the local data processing system storage after the expiration of the expiration timer.

11. (Previously Presented) The article of manufacture of claim 7 wherein the sending of the foreign file attributes is performed by a web server located on the remote system, the web server being capable of sending and receiving messages via a network.

12. (Currently Amended) The article of manufacture of claim [7] 20, wherein the method-steps operations further comprise:

storing the extended file attributes in a shared memory portion of the local data processing system storage which is accessible by the client and other local data processing system processes;

associating a unique handle with the extended file attributes; and

providing the unique handle to a local data processing system process to enable the local data processing system process to access the extended file attributes.

13. (Currently Amended) A distributed computer system for accessing a foreign file system from a local data processing system with a native file system, said foreign file system being located on a remote data processing system, said foreign file system having a set of foreign file attributes corresponding to each of a plurality of files in the foreign file system, and said native file system having a set of native file attributes corresponding to each of a plurality of files in the native file system, said distributed computer system comprising:

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a requestor for generating a request from a client on the local data processing system to the remote data processing system to open a foreign file in the foreign file system;
a foreign file which can be opened by the foreign file system;
a sender for sending file attributes of the foreign file, hereinafter foreign file attributes, to the local data processing system;
storage for storing of the foreign file attributes by the local data processing system;
a comparator for determining a subset of the foreign file attributes which are equivalent to a corresponding subset of file attributes of the native file system, the subset of the foreign file attributes hereinafter known as conventional file attributes;
a data transfer for returning the conventional file attributes to the client[;]
~~storage for storing a remaining subset of the foreign file attributes which are not equivalent to a corresponding subset of file attributes of the native file system, the remaining subset of the foreign file attributes hereinafter known as extended file attributes;~~
~~a file access for accessing the foreign file attributes stored in the local data processing system by the local data processing system client to process the foreign file; and~~
~~a processor for processing by the local data processing system client the foreign file using the stored foreign file attributes.~~

14. (Canceled)

15. (Currently Amended) The distributed computer system of claim [13] 21, further comprising:

a file access for accessing by the client the foreign file via a protocol of the native file system, the accessing being performed in a similar manner to accessing a file in the native file system file; and

a file access for accessing by the client the foreign file by use of the extended file attributes, the accessing being performed via a protocol different from the native file system protocol.

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16. (Previously Presented) The distributed computer system of claim 13 wherein the storage further comprises:

- an expiration timer corresponding to the extended file attributes; and
- storage access for removing the extended file attributes from the local data processing system storage after the expiration of the expiration timer.

17. (Previously Presented) The distributed computer system of claim 13 wherein the sender of the foreign file attributes is a web server located on the remote system, the web server being capable of sending and receiving messages via a network.

18. (Previously Presented) The distributed computer system of claim 13 further comprising:

- a shared memory portion of the local data processing system storage which is accessible by the client and other local data processing system processes for storing the extended file attributes;

- a unique handle associated with the extended file attributes; and

- a local data processing system process which uses the unique handle to enable the local data processing system process to access the extended file attributes.

19. (New) The method of claim 1, further comprising:

- storing a remaining subset of the foreign file attributes which are not equivalent to a corresponding subset of file attributes of the native file system, the remaining subset of the foreign file attributes hereinafter known as extended file attributes;

- accessing of the foreign file attributes stored in the local data processing system by the local data processing system client to process the foreign file; and

- processing by the local data processing system client the foreign file using the stored foreign file attributes.

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20. (New) The article of manufacture of claim 1, further comprising:
storing a remaining subset of the foreign file attributes which are not equivalent to a corresponding subset of file attributes of the native file system, the remaining subset of the foreign file attributes hereinafter known as extended file attributes;
accessing of the foreign file attributes stored in the local data processing system by the local data processing system client to process the foreign file; and
processing by the local data processing system client the foreign file using the stored foreign file attributes

21. (New) The distributed computer system of claim 13, further comprising:
storage for storing a remaining subset of the foreign file attributes which are not equivalent to a corresponding subset of file attributes of the native file system, the remaining subset of the foreign file attributes hereinafter known as extended file attributes;
a file access for accessing the foreign file attributes stored in the local data processing system by the local data processing system client to process the foreign file; and
a processor for processing by the local data processing system client the foreign file using the stored foreign file attributes.